

Morphology of female of the water mite *Mesobates longipes* Sokolow (Acariformes: Hygrobatidae)

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An illustrated description of female of the water mite *Mesobates longipes* Sokolow and a key to females of the genus *Mesobates* are given.

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The water mite *Mesobates longipes* Sokolow was described from a male and was known only from Primorsk Territory of Russia (Sokolow, 1934, 1940). A female is found in the Yaroslavl Province. In the present work, designations of idiosomal setae are given according to Tuzovskij (1987). The following abbreviations are used: ac1-3, genital acetabula (anterior, median, posterior); P1-5, pedipalp segments (trochanter, femur, genu, tibia and tarsus).

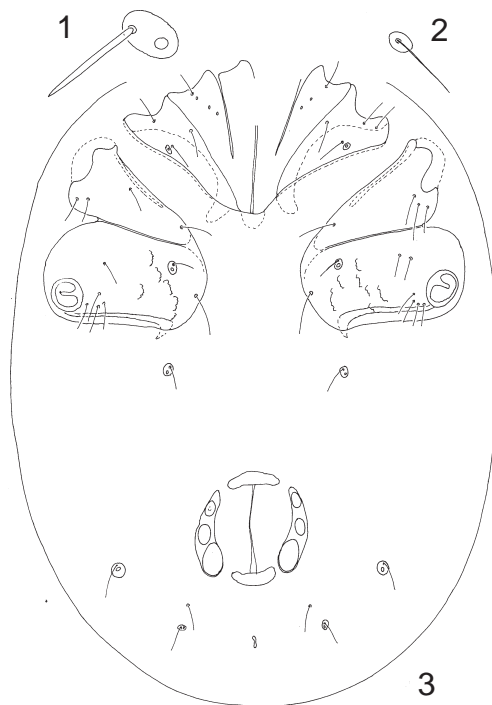
Mesobates longipes Sokolow, 1934 (Figs 1-11)

Material examined. Russia, Yaroslavl Prov.: 1 ♀, Nekouz Distr., from brook near village Postyltsevo, 5.VII.2006 (P.V. Tuzovskij).

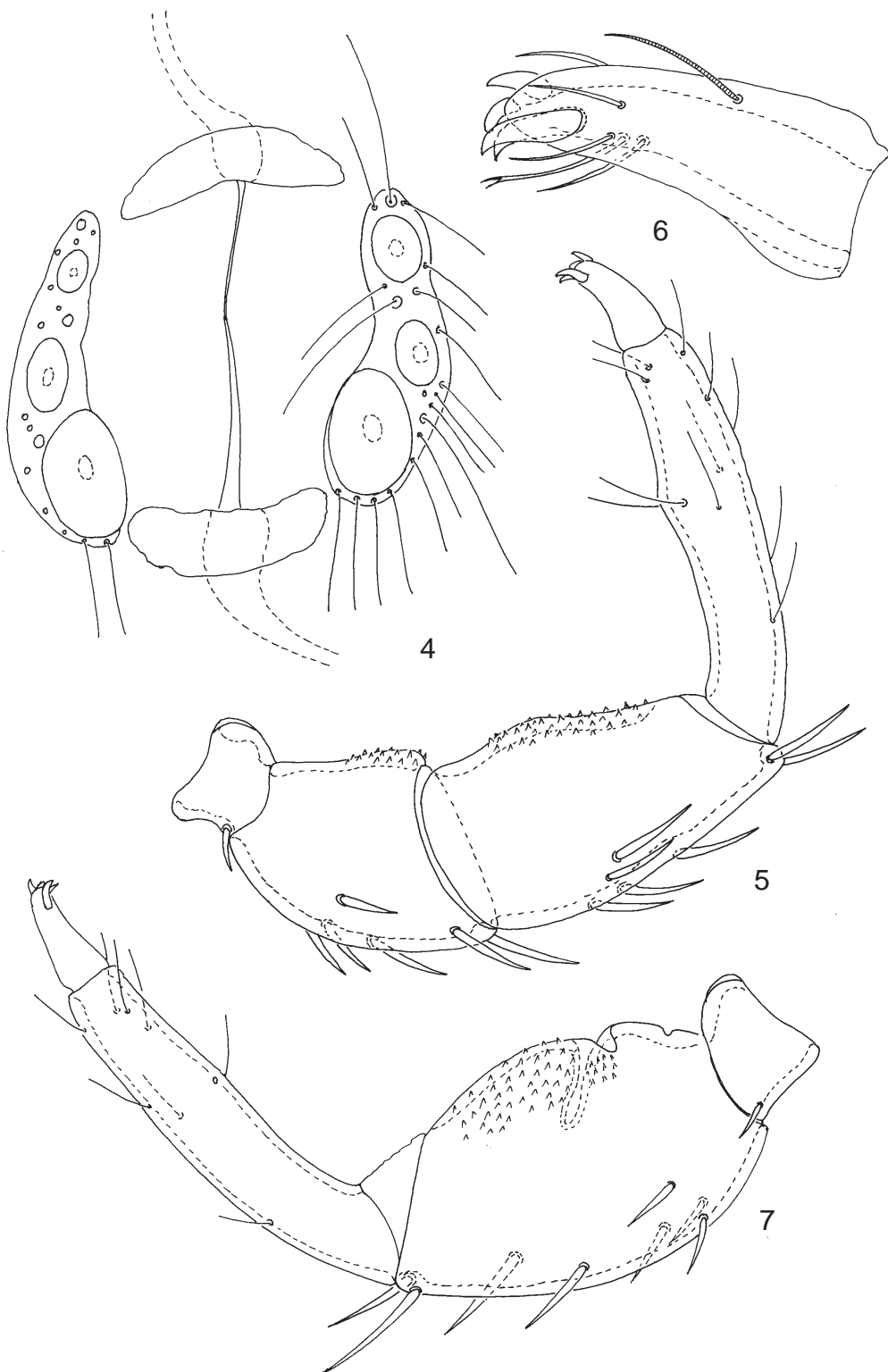
Description. Female. Body oval and rather flat. Colour red-brown. Number and arrangement of idiosomal setae typical of adult mites of the family Hygrobatidae (Tuzovskij, 1987). Setae Fch (Fig. 1) thick, other idiosomal setae thin. Trichobothria Fp and Oi (Fig. 2) and setae Pi without glandularia, other idiosomal setae with accompanying glandularia. Integument thin, smooth, without dorsal and ventral plates. Coxae of legs of mature female occupying less than half of ventral surface (Fig. 3). Coxae of legs I-II and capitulum fused to each other, their total width twice their length. Posterior edges of coxae II converging at an obtuse angle. Suture line between coxae I and capitulum incomplete; suture line between coxae I distinct. Anterior coxae with rather short, wide apodemes and short medial hypodermic projection. Setae Hv placed on coxae II near their posterior margins. Coxae III-IV with convex medial margin; seta and glandularia Pe on coxae IV removed from suture line between coxae III-IV. Glandularia Le larger than

glandularia of other idiosomal setae. Anal opening without sclerotized ring. External genital organ situated in posterior part of ventral side.

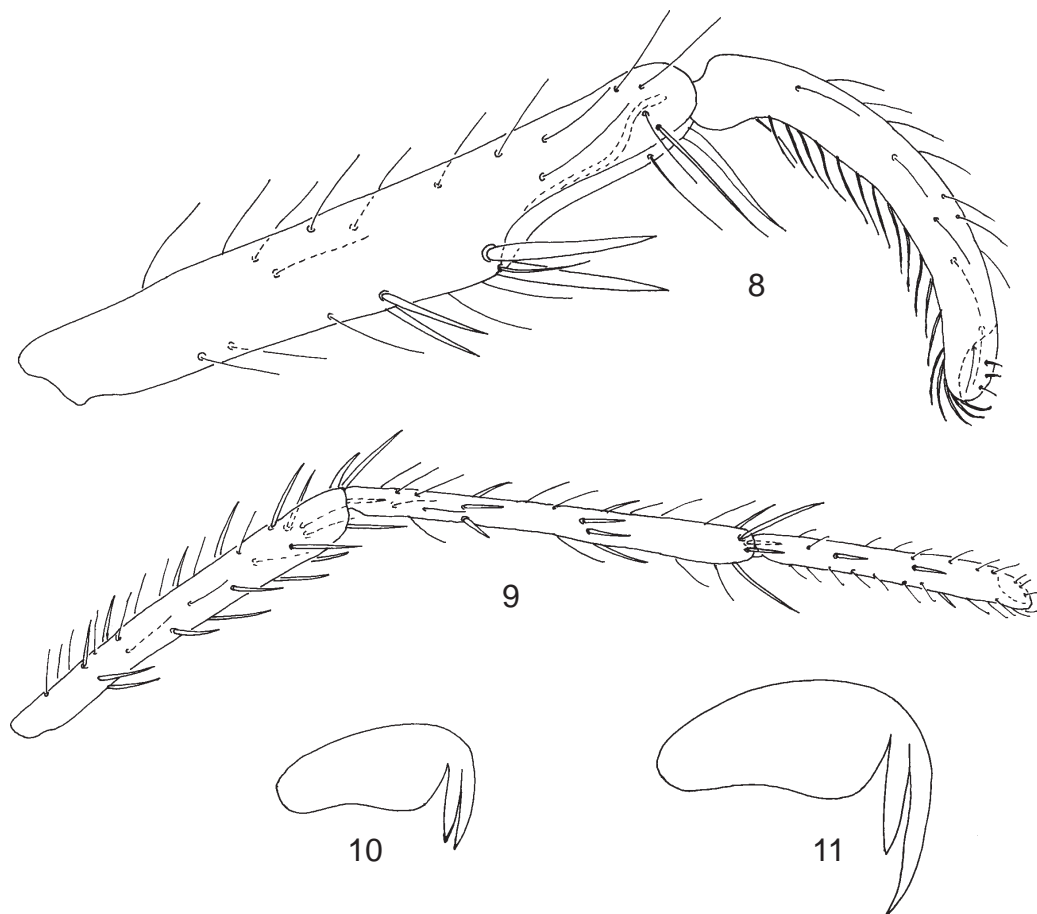
Anterior and posterior genital sclerites large and approximately equal in size (Fig. 4). Genital plates elongate (ratio length/width 3.2), their medial margins concave, external margins convex. Genital acetabula arranged in an arc. Ante-



Figs 1-3. *Mesobates longipes* Sokolow, female: 1, seta Fch; 2, trichobothrium Oi; 3, ventral surface.



Figs 4-7. *Mesobates longipes* Sokolow, female: **4**, external genital organ; **5**, **7**, pedipalp; **6**, pedipalpal tarsus.



Figs 8-11. *Mesobates longipes* Sokolow, female: **8**, tibia and tarsus of leg I; **9**, genu, tibia and tarsus of leg IV; **10**, claw of leg I; **11**, claw of leg IV.

rior and median genital acetabula small; posterior acetabula large. Genital plates with 16-18 thin setae, three of them longer than the rest.

Trochanter of pedipalp (Fig. 5) with one short dorsal seta. Pedipalpal femur with four proximal and two dorsodistal setae; its ventrodistal surface slightly concave, with numerous small teeth. Pedipalpal genu distinctly convex near the middle of ventral surface, with numerous small teeth; dorsal side of the segment with five proximal and two distal setae. Pedipalpal tibia slender, ventral setae located slightly behind its middle. Pedipalpal tarsus (Fig. 6) with one solenidion, five thin setae and four thick spines. Femur and genu of second pedipalp (Fig. 7) fused to each other by dorsal and lateral portions and with smaller total number of dorsal setae.

Legs without swimming setae. Basifemur, telofemur, genu and tibia of leg I longer and thicker than corresponding segments of leg II. Tibia

of leg I (Fig. 8) with two pairs of ventral spines, anterior of them shorter and thinner than posterior ones; ventrodistal terminal "curved" seta rather long and smooth. Tarsus of leg I arcuate, of equal thickness along the full length, except for proximal part; numerous ventral setae thicker than dorsal ones. Posterior legs thin and long, with numerous thin setae and spines (Fig. 9). Each claw with distinct lamella; its ventral margin concave. Claws of legs I with almost subequal clawlets (Fig. 10); claws II-IV with long external and relatively short internal clawlets (Fig. 11).

Measurements, μm . Length of body 1375, width 1180; length of seta Fch 48-55, width 6; length of coxae I+II 305, width 530; length of coxae III+IV 155-165, width 160-170; length of genital plate 175, width 55, length of genital acetabula (ac. 1-3): 33, 35-40, 66-72; width of anterior and posterior genital sclerites 60; lengths of pedipalpal segments (P1-5): 38, 138, 168, 210,

50; length of leg segments: I – 90-95, 210-215, 270-275, 420-425, 360-370, 215-220; II – 90, 180-185, 220-230, 335-340, 330-340, 265; III – 95, 175-180, 230-240, 370-385, 390-400, 280-290; IV – 180-190, 225-235, 330, 480-490, 480-490, 340-350.

Comparison. The genus *Mesobates* Thor, 1901 includes two more species: the European *M. forcipatus* Thor, 1901 and the North American *M. churchillensis* Conroy, 1982. Males are known only in *M. forcipatus* and *M. longipes*, distinctions between them are given in the description of the latter species (Sokolow, 1934, 1940). Distinctions between females of the genus *Mesobates* are given in the key.

Key to *Mesobates* females

- 1(2). Anterior and posterior genital acetabula equal in size **M. forcipatus**
- 2(1). Anterior genital acetabulum smaller than posterior one.
- 3(4). Pedipalps long (length P1-5 = 791-841 μm); length of genital plates 200-211 μm ; terminal curved seta

on tibia of leg I pectinate and wide (Conroy, 1982) .

- **M. churchillensis**
- 4(3). Pedipalps rather short (length P1-5 = 605 μm); length of genital plates 175 μm ; terminal curved seta on tibia of leg I smooth and narrow **M. longipes**

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